

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
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PCT

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

Date of mailing
(day/month/year) 20 MAR 2009

Applicant's or agent's file reference

66422-7006

IMPORTANT NOTIFICATION

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US05/33358

16 September 2005 (16.09.2005)

Applicant

STEROGRAPHICS CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

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For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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Authorized officer

/Kimbinh T. Nguyen
Telephone No. (571) 272-7644

Form PCT/IPEA/416 (January 2004)

4/11

4/6/09

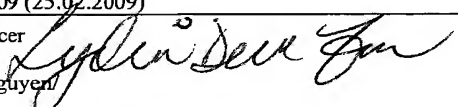
PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 66422-7006	FOR FURTHER ACTION		See Form PCT/IPEA/416																								
International application No. PCT/US05/33358	International filing date (day/month/year) 16 September 2005 (16.09.2005)	Priority date (day/month/year)																									
International Patent Classification (IPC) or national classification and IPC IPC: G09G 5/02 (2006.01); G02B 27/22 (2006.01) USPC: 345/589;359/462																											
Applicant STEROGRAPHICS CORPORATION																											
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>8</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>1</u> sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																											
<p>4. This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 20%;">Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand 27 July 2007 (27.07.2007)		Date of completion of this report 25 February 2009 (25.02.2009)																									
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer  /Kimbinh T. Nguyen/ Telephone No. (571) 272-7644																									

Form PCT/IPEA/409 (cover sheet)(April 2007)

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☐ the description:
pages 1-17 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☒ the claims:
pages 18-20 as originally filed/furnished
pages* _____ as amended (together with any statement) under Article 19
pages* 19 received by this Authority on 07/11/2007
pages* _____ received by this Authority on _____
- ☒ the drawings:
pages 1-7 as originally filed/furnished
pages* _____ received by this Authority on _____
pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

5. ☐ This report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 70.2(e)).

** If item 4 applies, some or all of those sheets may be marked "superseded."*

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has, within the applicable time limit:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest, and, where applicable, the protest fee
 - ☐ paid additional fees under protest but the applicable protest fee was not paid
 - ☐ neither restricted the claims nor paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
- ☒ complied with.
 - ☐ not complied with for the following reasons:

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☒ all parts
- ☐ the parts relating to claims Nos. _____

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US05/33358**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)

Claims NONE YESClaims 1-6,8 and 10-14 NO

Inventive Step (IS)

Claims NONE YESClaims 7 NO

Industrial Applicability (IA)

Claims 1-8 and 10-14 YESClaims NONE NO

2. Citations and Explanations (Rule 70.7)

Please See Continuation Sheet

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US05/33358

Box No. VI **Certain documents cited**

1. Certain published documents (Rule 70.10)

Application No
Patent No.

Publication Date
(day/month/year)

Filing Date
(day/month/year)

Priority date (valid claim)
(day/month/year)

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure

Date of non-written disclosure
(day/month/year)

Date of written disclosure
referring to non-written disclosure
(day/month/year)

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:

1) Claims 1-6, 8, 10-14 lack novelty under PCT Article 33(2) as being anticipated by Swift et al. U.S. Pub. No. 2002/0122585.

Claim 1, Divelbiss et al. discloses a method for converting an input image having a first format to an output image having a second format, wherein the input image and the output image are each defined by a plurality of pixels (abstract), comprising: receiving the input image (receiving only field-dequantized 3D video from a composite video or S-Video source in both NTSC or PAL formats; paragraphs 0007, 0012, 0077); converting each pixel of the input image (color pixels RGB, YUV) to a corresponding pixel for an output image (converting that video to a single 3D format for computer VGA video on the output; paragraph 0007) in accord with a map setting forth a predefined relationship between the first format and the second format, thereby creating the output image (paragraphs 0039-0047); formatting the output image (paragraphs 0048-0053); and displaying the formatted output image (and display of stereoscopic image pairs, paragraph 0004).

Claim 2, Divelbiss et al. discloses the converting step includes creating the map as a matrix that sets forth predefined relationships between one type of format as an input image and another type of format as an output image (paragraphs 0049-0052, 0054).

Claim 3, Divelbiss et al. discloses converting the color space of the input image (RGB, YUV; paragraphs 0035, 0039-0041); scaling the input image (paragraphs 0050, 0056, 0059, 0060); creating additional views as needed (paragraphs 0029, 0064); swapping views (paragraphs 0065, 0085); preparing a presentation of the output image for a particular format type (paragraphs 0081-0084); centering the presentation (paragraph 0061); formatting the presentation thereby creating a formatted output image (paragraphs 0048-0053); and displaying the formatted output image (paragraph 0004).

Claim 4, Divelbiss et al. discloses inverting the input image after the scaling step and before the creating step (paragraph 0043).

Claim 5, Divelbiss et al. discloses aligning the views after the creating step and before the swapping step (paragraphs 0061, 0062).

Claim 6, Divelbiss et al. discloses arranging a predefined view wherein a single frame contains nine views (a single image frame), then interzigging the views (row-interleaved and column-interleaved), after the swapping step and before the preparing step (paragraphs 0081-0084).

Supplemental Box

Claim 8, Divelbiss et al. teaches scaling the planar image by a fixed percentage to create a scaled image (paragraphs 0059, 0060, 0073); copying the scaled image to create a complimentary image (restoring; paragraphs 0073-0075); shifting the complimentary image by a smaller percentage of the fixed percentage (paragraphs 0061, 0062); extracting a centered image from the scaled image (paragraph 0061); and extracting a centered image from the shifted complimentary image (paragraphs 0061, 0062).

Claim 10, Divelbiss et al. teaches the smaller percentage is half (paragraphs 0083, 0084).

Claim 11, Divelbiss et al. teaches scaling the planar image by a fixed percentage to create a scaled image (paragraphs 0056, 0059, 0060, 0073); copying the scaled image to create a complimentary image (paragraphs 0073-0075); skewing (shifting) the complimentary image by a smaller percentage of the fixed percentage (paragraphs 0061, 0062); extracting a centered image from the scaled image (paragraph 0061); and extracting a centered image from the shifted complimentary image (paragraphs 0061, 0062).

Claim 12, Divelbiss et al. discloses the smaller percentage is half (paragraphs 0083, 0084).

Claim 13, Divelbiss et al. teaches a device for converting an input image having a first format to an output image having a second format (3D data format converter; paragraph 0027; fig. 9), wherein the input image and the output image are each defined by a plurality of pixels, comprising a software-enabled matrix that sets forth predefined relationships between one type of format as an input image and another type of format as an output image (computer control interface; paragraph 0038), and a processor configured to identify the first format of the input image and convert it using the matrix to an output image having the second format (processor system 104; paragraph 0039).

Claim 14, Divelbiss et al. teaches the matrix contains for each type of image format a pre-defined correspondence between a pixel from the input image and a pixel for the output image (paragraphs 0049-0052, 0054, 0064).

2) Claim 7 lacks an inventive step under PCT article 33(3) as being obvious over Divelbiss et al. 2004/0218269 in view of Swift et al. 2002/0122585.

Claim 7, Divelbiss does not teach the input image is a planar image; Swift et al. teaches creating a stereo image pair from the planar image (converting a 2D object movie to a 3D stereoscopic object movie; paragraph 0030). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the input 2D planar image into the method and system of Divelbiss for converting 3D stereoscopic planar image, because image interpolation is used for converting 2D image planar into a 3D image planar, it would provide better quality display output (paragraph 0030).

5. The method of claim 3, further comprising aligning the views after the creating step and before the swapping step.

6. The method of claim 3, further comprising arranging a predefined view wherein a single frame contains nine views, then interzigging the views, after the swapping step and before the preparing step.

7. The method of claim 1, wherein the input image is a planar image, further comprising creating a stereo image pair from the planar image.

8. The method of claim 7, wherein the creating step comprises:
scaling the planar image by a fixed percentage to create a scaled image;
copying the scaled image to create a complimentary image;
shifting the complimentary image by a smaller percentage of the fixed percentage;
extracting a centered image from the scaled image; and
extracting a centered image from the shifted complimentary image:

9. [Omitted]

10. The method of claim 8, wherein the smaller percentage is half.

11. The method of claim 7, wherein the creating step comprises:
scaling the planar image by a fixed percentage to create a scaled image;
copying the scaled image to create a complimentary image;
skewing the complimentary image by a smaller percentage of the fixed percentage;
extracting a centered image from the scaled image; and
extracting a centered image from the shifted complimentary image.

12. The method of claim 11, wherein the smaller percentage is half.

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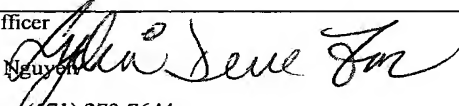
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Form PCT/IPEA/416 (January 2004)

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